DOCUMENT RESUME

ED 341 347 HE 025 243

AUTHOR Low, Jane M.
TITLE Background and Academic Characteristics of Freshmen Entering UC Davis: A Consideration of their Relation to Educational Outcomes. Research Synopsis: Student Affairs Research and Information No. 36.
INSTITUTION California Univ., Davis. Office of Student Affairs Research and Information.
REPORT NO UCD-SARI-36
PUB DATE Jun 90
NOTE 9p.; For related documents, see HE 025 239-246.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Academic Achievement; *Academic Persistence; Asian Americans; Black Students; *College Freshmen; *College Preparation; *Ethnic Groups; Filipino Americans; Graduation; Higher Education; Hispanic Americans; Longitudinal Studies; School Holding Power; *Socioeconomic Background; Student Attrition; *Student Characteristics; Whites
IDENTIFIERS *University of California Davis

ABSTRACT

This study examined the possible influence of socioeconomic background and academic preparation of freshmen entering University of California Davis in Fall 1988 on persistence to graduation. Most academic data for the study came from a longitudinal database of undergraduates enrolled at Davis. Socioeconomic background data came from a freshman survey conducted prior to arrival on campus: The results revealed distinct patterns among racial or ethnic groups entering Davis: (1) Asian freshmen enter the most academically well-prepared group and usually from relatively modest socioeconomic backgrounds and graduate at the highest rate (76 percent); (2) white freshmen come academically well-prepared and from the most favorable socioeconomic background (73 percent graduate); (3) Filipino freshmen generally come from moderately affluent, well-educated backgrounds, are fairly well-prepared for University study (62 percent graduate); (4) Chicano freshmen come from the least affluent and lowest levels of formal education (57 percent graduate); (5) Black freshmen enter the least well prepared and are from families at the low end of the socioeconomic spectrum, (41 percent graduate). Overall, the data indicate that academic preparation for college-level work appears to be a critical factor influencing persistence to graduation. As academic preparation increases, the likelihood of degree completion increases. Included are seven tables and 21 references.
(Author/JB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED341347

University of California
Davis

RESEARCH SYNOPSIS

Student Affairs
Research and Information

No. 36 *June 1990*

BACKGROUND AND ACADEMIC CHARACTERISTICS OF FRESHMEN ENTERING UC DAVIS

A CONSIDERATION OF THEIR RELATION TO EDUCATIONAL OUTCOMES

BEST COPY AVAILABLE

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

UC Davis

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

HE 025 245

University of California
Davis

RESEARCH SYNOPSIS

Student Affairs
Research and Information

No. 36 *June 1990*

BACKGROUND AND ACADEMIC CHARACTERISTICS OF FRESHMEN ENTERING UC DAVIS

A CONSIDERATION OF THEIR RELATION TO EDUCATIONAL OUTCOMES

This report describes certain characteristics—socioeconomic background and academic preparation—of freshmen entering UC Davis in Fall 1988 and examines the possible influence of these characteristics on persistence to graduation. Educational research suggests that these particular characteristics strongly influence degree completion rates. Examination of student characteristics and graduation rates reveals distinct patterns among racial or ethnic groups entering UC Davis:

- Asian freshmen enter as the most academically well-prepared group; they come from relatively modest socioeconomic backgrounds. They graduate at the highest rate among racial-ethnic groups attending UC Davis (76%).
- White freshmen come academically well-prepared and from the most favorable socioeconomic backgrounds. They graduate at the second highest rate (73%).
- Filipino freshmen generally come from moderately affluent, well-educated backgrounds and fairly well-prepared for University study. Their graduation rate (62%) places them near the middle of the groups included in this report.
- Chicano freshmen, as a group, come from families least affluent and with the lowest levels of formal education. They rank in the middle of all groups in academic preparation and graduate in the middle ranges (57%).
- Black freshmen enter less well-prepared academically for University study than any other racial-ethnic group. Their family backgrounds tend to place them at the low end of the socioeconomic spectrum and they graduate at the lowest rates (41%) among all groups.

Introduction

In the past twenty-five years, UC Davis has significantly increased the racial and ethnic diversity of its undergraduate student body, both absolutely and proportionally. For example, the number of non-White domestic freshmen entering Davis from high school grew 139% between 1979 and 1988, going from 550 to 1316. The proportion of non-White freshmen entering during this period increased from 21% to 39% of the total freshman population.

Despite progress in enrolling more non-White students, there remain troubling differences in educational outcomes among certain racial-ethnic groups, especially those historically underrepresented in higher education. While 71% of all freshmen entering between 1979 and 1983 attained a bachelor's degree at UC Davis, completion rates for underrepresented groups fell consistently below this average: Black (41%), American Indian (44%), Chicano (57%), and Latino and Filipino (62%). By comparison, 73% of White and 76% of Asian freshmen completed baccalaureate degrees.

Although these differences in educational outcomes have long been of concern to the campus, they take on added urgency in light of goals specified in recent Student Affirmative Action (SAA) five-year plans. The current draft of the UC Davis SAA Plan proposes increasing the retention and graduation rates of SAA undergraduates. The Universitywide SAA Plan goes further by requiring that each campus successfully retain and graduate SAA students "at a rate equal to that of other students."

The reasons why one racial-ethnic group should have different educational outcomes than another are complex and not fully understood. Indeed, the reasons why one individual achieves different outcomes than another frequently defy precise analysis. However, educational research often cites three contributing factors, each consisting of multiple components: background characteristics of entering students, commitment to higher education, and experience of students within higher education. This report examines one factor—background characteristics—in order to shed light on the differing patterns of educational outcomes among racial-ethnic groups attending UC Davis.

Findings in this report, while descriptive in character and not intended to indicate causal relations, provide a detailed discussion of factors that influence educational outcomes. This information can further development and revision of programs designed to implement SAA goals and improve understanding among the campus community of factors that may influence academic success.

Methodology and Data Sources

This report examines one measure of educational outcomes—completion of a bachelor's degree—while keeping in mind that educational outcomes include a far wider and more complex range of variables, such as personal and intellectual development. While not exhaustive, the report reviews important or representative research studies and applies key findings to campus data.

The following report sections describe characteristics and outcomes of the following groups: Asian, Black, Chicano, Filipino and White. Other racial-ethnic groups are excluded because their small numbers do not allow independent analysis. Although the report presents results for groups, keep in mind that individuals within each may differ considerably from the group.

As used in this report, the term *freshman* includes domestic students designated by Undergraduate Admissions as "new from high school." Most academic data for this report come from the Composite Undergraduate File (CUF), a longitudinal database of undergraduates enrolled at UC Davis. Socioeconomic background data come from the ACE/CIRP Freshman Survey, a survey of incoming UC Davis freshmen conducted prior to their arrival in Fall 1988 as part of a national longitudinal study of college freshmen sponsored by the American Council on Education (ACE) and the Cooperative Institutional Research Program (CIRP) at UC Los Angeles.

Background Characteristics: Entering Freshmen

Higher education research singles out socioeconomic background and academic preparation as those entering characteristics most likely to influence persistence to an undergraduate degree. This section examines these characteristics, focusing on UC Davis' Fall 1988 freshman class. It also presents selected findings from the research literature regarding the relation between these background characteristics and educational outcomes.

A. Socioeconomic Background

Socioeconomic status is often described by means of an index variously composed of parents' education, income and occupation. Instead of using an index, however, this report presents two components of socioeconomic status—parental education and parental income.

1. Parental Education

Many educational researchers find that students whose parents attended college will more likely persist through college themselves. Alexander Astin (1982), using data from follow-up surveys of respondents to the annual ACE/CIRP freshman surveys, finds a positive association between parental education and persistence to graduation among Black, Chicano and White students (Astin's analysis does not include Asian students).

The .1988 ACE/CIRP Freshman Survey asked UC Davis respondents to indicate the highest level of formal education obtained by their parents. Survey results reveal a wide range in parents' education among various racial-ethnic groups. Chicano freshmen are more likely to come from families with the least amount of education, whereas White and Filipino freshmen more often come from the most highly educated families.

Table 1 reveals striking differences in father's education among new UC Davis freshmen. Fathers of 45% of Chicano freshmen had not completed high school, compared to 2% of White, 3% of Filipino, and 9% of Black students. Furthermore, fathers of 74% of White but only 23% of Chicano freshmen had college degrees.

TABLE 1
Highest Level of Education Obtained by Father
Freshmen Entering UC Davis Fall 1988
—by racial-ethnic group—

Educational Level	Asian	Black	Chicano	Filipino	White
Didn't complete high school	19%	9%	45%	3%	2%
High school graduate	17	24	10	9	7
Some college	16	33	22	31	17
College grad	23	16	13	29	28
Some graduate school/degree	26	19	10	27	46

Source: 1988 UC Davis ACE/CIRP Freshman Survey

Educational attainment of respondents' mothers also varies widely among different ethnic groups. As shown in Table 2, mothers of 33% of Chicano and 25% of Asian freshmen did not complete high school. Conversely, 70% of Filipino and 63% of White freshmen indicate that their mothers had received a college degree, whereas only 14% of Chicano mothers had done so.

2. Parental Income

Most education researchers perceive a positive association between parental income and educational outcomes. The importance of this relation is illustrated by a national study of 1980 high school graduates who entered college between 1980 and 1982 (U.S. Department of Education, 1988). Among students with high socioeconomic status, 43% had earned baccalaureate degrees by 1986. By comparison, only 30% of students with medium-high status, 20% with medium-low status, and 15% with low status had received degrees. The pattern appears to hold true for SAA students; Astin (1982) finds that the lower the family income, "the poorer a minority student's prospects in higher education" (p. 94).

TABLE 2
Highest Level of Education Obtained by Mother
Freshmen Entering UC Davis Fall 1988
—by racial-ethnic group—

Educational Level	Asian	Black	Chicano	Filipino	White
Didn't complete high school	25%	8%	33%	4%	2%
High school graduate	22	23	31	5	11
Some college	21	41	23	21	28
College grad	23	14	10	45	34
Some graduate school/degree	9	14	4	25	25

Source: 1988 UC Davis ACE/CIRP Freshman Survey

Consistent with the marked differences in parents' education among racial-ethnic groups at UC Davis, respondents to the 1988 Freshman Survey report considerable disparity in parental income levels as well. Table 3 reveals that White freshmen are likely to come from the most affluent family backgrounds and Chicano and Black freshmen from the least. One-third of White freshmen estimate their parents' annual income at more than $75,000, but only about 4% of Chicano and 5% of Black freshmen come from families in this income group. At the other end of the economic spectrum, 33% of Asian, 31% of Chicano and 26% of Black freshmen report family incomes of less than $20,000.

TABLE 3
Estimated Parental Income
Freshmen Entering UC Davis Fall 1988
—by racial-ethnic group—

Estimated Income	Asian	Black	Chicano	Filipino	White
Less than $20,000	33%	26%	31%	9%	5%
$20,000-34,999	18	33	26	22	11
$35,000-49,999	19	14	27	25	19
$50,000-74,999	19	22	12	32	32
More than $75,000	12	5	4	11	33

Source: 1988 UC Davis ACE/CIRP Freshman Survey

B. Academic Preparation

The quality of a student's academic preparation, as measured by high school grade point average (GPA) and admission test scores, is a particularly important determinant of future academic performance.

1. High School Grade Point Average

Most educational researchers use high school GPA to predict college GPA. Although less effective in predicting persistence to a bachelor's degree, high school GPA is nevertheless considered the best predictor of undergraduate persistence available (Ramist, 1981; Pantages and Creedon, 1978). In his study of factors affecting students' educational progress, Astin (1982) finds that a student's average grade in high school is "the most consistent and substantial predictor of most measures of undergraduate persistence" (p. 92).

A 1989 report from the UC Office of the President indicates a strong, positive relation between high school GPA and graduation. Among UC regularly-admitted freshmen, "five-year graduation rates range from 71% for students with a high school GPA of 3.82 or above, to 43% for those with GPAs in the 2.89-3.03 range" (p. 6).

A review of high school GPAs of freshmen entering UC Davis in Fall 1988 suggests that racial-ethnic groups vary considerably in their preparation for college-level work. As shown in Table 4, some freshmen have substantially higher high school GPAs; 87% of Asian and 79% of White freshmen have high school GPAs of 3.3 or above. These scores compare with 62% of Chicano and 60% of Filipino freshmen. Only 26% of Black freshmen came to UC Davis with high school GPAs of 3.3 or above.

TABLE 4
Self-Reported High School Grade Point Averages
Freshmen Entering UC Davis Fall 1988
—by racial-ethnic group—

High School GPA	Asian	Black	Chicano	Filipino	White
3.9—Above	29%	5%	13%	17%	23%
3.6—3.89	29	6	20	20	28
3.3—3.59	29	15	29	23	28
3.0—3.29	12	34	20	29	17
Below 3.00	2	41	18	11	4

Source: CUF Fall 1989F

2. Admission Test Scores

Similar to high school GPAs, admission test scores have limited scope and power in predicting bachelor's degree completion; but these scores are the best predictors available to researchers. A 1989 study conducted by the National Institute of Independent Colleges and Universities (NIICU) uses a large national data base developed by the U.S. Department of Education to examine the effect of admission test scores and ethnicity on college degree completion. The results show that as academic ability (as measured by test score) increases, degree completion rates for Hispanic and White students increase as well. Black students exhibit a similar relation between ability and completion (except those in the high-ability group show a lower completion rate than any other group among Blacks except the lowest ability level).

Other studies find admission test scores less predictive. Astin (1987) reports that, while test scores are the second most potent predictor of college persistence (after high school GPA), correlation between test scores and persistence is modest. Ramist (1981) reports that, after controlling for high school record, standardized test scores are only moderately associated with college persistence.

TABLE 5
Mean SAT Scores
Freshmen Entering UC Davis Fall 1988
—by racial-ethnic group—

SAT Mean Scores	Asian	Black	Chicano	Filipino	White
Mathematical	586	452	496	506	580
Verbal	438	411	434	450	512

Source: CUF Fall 1989F

Table 5 displays mean SAT scores for freshmen entering UC Davis in Fall 1988. As is the case with high school GPA, mean SAT scores for Black freshmen are substantially lower than those of other racial-ethnic groups. The table also shows that White students score ahead of every other group in the SAT-Verbal test. The same pattern follows for SAT-Mathematical scores, except Asians score an average 6 points above White freshmen.

Robert Cameron, Director of Research and Development for The College Board (1989), offers a word of caution to researchers looking at differences in admissions test scores among ethnic groups. He stresses the importance of also considering the influence of background variables, such as parental income and education. There is, he states, a positive relation between socioeconomic status and admission test scores; families with above-average incomes are more likely to have higher college aspirations for their children, live in communities with good schools, and have more income to spend on educational and cultural activities.

3. Honors and Advanced Placement Courses

The research literature says little regarding the influence of taking honors and advanced placement courses on educational outcomes in college. Yet the evidence offered here suggests that a relation may indeed exist. The 1988 survey of Davis freshmen (Table 6) shows that larger proportions of White, Filipino and Asian freshmen took honors and advanced placement courses in high school, indicating a higher level of academic preparation for college.

TABLE 6
Honors and Advanced Placement Courses Taken in High School
Freshmen Entering UC Davis Fall 1988
—by racial-ethnic group—

Two or More Courses	Asian	Black	Chicano	Filipino	White
Honors	60%	48%	51%	59%	64%
Advanced Placement	44	33	31	29	48

Source: 1988 UC Davis ACE/CIRP Freshman Survey

Educational Outcomes

Before looking at differences in educational outcomes among racial-ethnic groups attending UC Davis, it is important to review campus admissions policies.

A. Admissions Policies

University of California policies include two broad admissions categories: regular and special action. Regularly admitted students meet all University eligibility requirements, including coursework, high school GPA and admissions test requirements. Special action students are admitted through procedures in exception to the basic entrance requirements; entrants vary widely in the degree to which they fall short of these. The University may admit by special action up to 6% of each year's freshmen, two-thirds of whom must be "disadvantaged." Previous campus research shows special action admits to be at highest risk for leaving without attaining a degree.

Because the University uses special action admissions to admit increased numbers of disadvantaged students, it is not surprising that larger proportions of students from underrepresented groups, many from disadvantaged backgrounds, are special action admits. Campus research indicates that 56% of Black, 30% of Latino, 29% of American Indian and 27% of Chicano freshmen enrolling at UC Davis in Fall 1988 were admitted by special action. In contrast, only 4% of White and 5% of Asian freshmen were admitted in this category.

B. Bachelor's Degree Completion

UC Davis students graduate at rates substantially above national rates for students in comparable public institutions. At Davis, 71% of freshmen entering between 1979 and 1983 completed a bachelor's degree. By comparison, the NIICU study (1989) revealed a six-year graduation rate of only 43% for a cohort of 1980 high school graduates who attended postsecondary institutions comparable to UC Davis.

UC Davis students also graduate at the highest rates among all University of California students. A 1989 report from the Office of the President indicates that 76% of regularly admitted freshmen who entered UC Davis in Fall 1982 had either graduated or were still enrolled five years later; the Universitywide rate is 65%. Special action freshmen have considerably lower graduation/continuation rates: 46% for UC Davis, 43% Universitywide.

Although UC Davis' overall graduation rates are very high, Table 7 shows that degree completion rates for underrepresented ethnic groups lag substantially behind those of freshmen as a whole. Only 41% of all Black freshmen entering Davis between 1979 and 1983 completed a degree; 57% of Chicano and 62% of Filipino freshmen graduated. The completion rate for all freshmen was 71%.

TABLE 7
Graduation Rates of UC Davis Freshmen
—by Admission Status and Ethnicity—
1979-1983

Ethnicity	Regular Action Admits	Special Action Admits	ALL Admits
Black	51%	32%	41%
Chicano	61	40	57
Filipino	67	37	62
Asian	78	60	76
White	74	53	73
ALL Freshmen	73	45	71

Source: CUF Fall 1989F

Several studies (Astin, 1982; Gosman, 1983; Nettles, 1988; Thomas, 1988) document the comparatively low graduation rates of students from some racial-ethnic groups. The 1989 report from the UC Office of the President indicates that, among UC freshmen regularly admitted in fall 1982, five-year graduation/continuation rates for all underrepresented groups fall below that for all students (65%): Latino (61%), Filipino and Chicano (57%), American Indian (54%) and Black (50%). Not unexpectedly, graduation/continuation rates among all special action freshmen were lower yet (43%): Chicano (45%), Filipino (42%), Latino (40%), American Indian (38%) and Black (36%).

The NIICU national study of undergraduate degree completion (1989) also reveals substantial differences between Black and Hispanic students and their White and Asian peers. The graduation rate for Blacks and Hispanics was less than 30% after six years, about half the rate for the other two groups.

Low graduation rates of certain ethnic groups are well documented, both in this report and in the research literature; but when such characteristics as academic preparation and socioeconomic status are controlled, many researchers find that group differences in persistence to a bachelor's degree are significantly reduced or even reversed. In other words, the effects of race or ethnicity on educational outcomes are largely indirect.

Conclusion

Academic preparation for college-level work appears to be a critical factor influencing persistence to a bachelor's degree. Evidence from educational research and this report strongly suggest that as academic preparation increases, the likelihood of degree completion increases as well. What, then, are the implications of these findings for UC Davis? How should the campus approach academically underprepared students? Vincent Tinto (1987), outlining actions that govern successful retention programs, offers this advice:

At the very minimum, institutions should ensure that new students either enter with or have the opportunity to come to possess sufficient knowledge and sufficient skills to meet the academic demands of the institution.

If the campus heeds Tinto's advice, it appears that at least two courses of action are open:

- Limit the proportion of academically underprepared students admitted to the campus, and/or
- Strengthen academic support programs to ensure that poorly prepared students reach a level of academic attainment where completion of a bachelor's degree is more likely.

In order to graduate SAA students at rates equal to those of other students, the campus must commit wholeheartedly—with sufficient resources, administrative leadership and broad institutional support—to a course of action that places strong emphasis on the academic preparation of new students. Thus, it seems reasonable for the campus to concentrate its efforts toward strengthening students' academic preparation, particularly through secondary school outreach and campus academic support programs.

Socioeconomic background (i.e., parental education and income) also appears to be an important factor influencing persistence to a bachelor's degree. Although UC Davis can do relatively little to change or offset pre-existing conditions, the campus community must become increasingly sensitive and responsive to the growing number of students who may come from different or disadvantaged backgrounds.

References and Related Reports

Astin, A. 1982. *Minorities in American Higher Education.* San Francisco: Jossey-Bass Publishers.

Astin, A. et al. 1987. "Retaining and Satisfying Students," *Educational Record* 68:36-42.

Cameron, R. 1989. *The Common Yardstick. A Case for the SAT.* New York: College Entrance Examination Board.

Gosman, E. et al. 1983. "Predicting Student Progression: The Influence of Race and Other Student and Institutional Characteristics on College Student Performance," *Research in Higher Education* 18:209-236.

Nettles, M. (ed.) 1988. *Toward Black Undergraduate Student Equality in American Higher Education.* New York: Greenwood Press.

The National Institute of Independent Colleges and Universities. 1989. *Undergraduate Completion and Persistence at Four-Year Colleges and Universities.* Washington, D.C.: The National Institute of Independent Colleges and Universities.

Pantages, T. and C. Creedon. 1978. "Studies of College Attrition: 1950-1975," *Review of Educational Research* 48:49-101.

Ramist, L. 1981. *College Student Attrition and Retention.* College Board Report No. 81-1, New York: College Entrance Examination Board.

Thomas, G. (ed.) 1988. *Black Students in Higher Education.* Westport, Connecticut: Greenwood Press.

Tinto, V. 1987. *Leaving College.* Chicago: University of Chicago Press.

U.S. Department of Education, National Center for Education Statistics. 1988. *High School and Beyond. A Descriptive Summary of 1980 High School Seniors: Six Years Later.* Washington, D.C.: U.S. Government Printing Office.

University of California Office of the President, Student Research and Operations. 1989. *The Forces Influencing College Student Persistence: A Review of the Literature.*

University of California Office of the President, Student Research and Operations. 1989. *Undergraduate Retention and Graduation at the University of California.*

Additional information related to the subjects described above appears in the following reports; they are available from Student Affairs Research and Information by calling (916) 752-2000:

Student Affirmative Action Progress Report: 1989-1990. (May 1990)

RESEARCH SYNOPSIS #35—1989 SAT Scores of UC Davis Freshmen—Changes since 1980 and Comparisons with Other UC Campuses. (May 1990)

RESEARCH SYNOPSIS #32—Graduation Rates of UC Davis Undergraduates—Students Entering 1974-1983. (November 1989)

TABLES: Persistence and Graduation Rates of UC Davis Undergraduates—Domestic Students by Admission Status and Ethnicity: 1974-1988. (November 1989)

TABLES: Persistence and Graduation Rates of UC Davis Native Students—Domestic Students by Admission Status and Ethnicity: 1974-1988. (November 1989)

RESEARCH SYNOPSIS #28—Highlights: Survey of the Fall 1988 UC Davis Freshman Class. (March 1989)

RESEARCH SYNOPSIS #26—The Fall 1988 UC Davis Freshman Class. (January 1989)

RESEARCH SYNOPSIS #24—Enrollment, Persistence and Graduation of Undergraduates Admitted to UC Davis by Special Action. (November 1988)